The distance between the margin of the lens and the sclerotic was increased during the accommodation, and just sufficiently to correspond to the advancement of the ciliary processes.

Under the action of atropine, it may be that the ciliary process moved backwards a very little, but it was impossible to notice any change of the zonular space.

Prof. Hjort has also examined several albinos, and he has found that the phenomena presented were precisely the same, except that in them the observations were made with greater difficulty.

These observations fully confirm the theory of accommodation formulated by Helmholtz, Graefe, and most modern physiologists.' Becker, who has examined the eyes of several albinos, differs in this that he has found that the ciliary processes are drawn backwards during the accommodation.

Prof. Hjort had observed the same phenomenon, but he explained this, at first, by the insufficient strength of the calabar used, later and principally by the fact that the retrograde movements of the ciliary processes are only illusory, and the latter become concealed further behind the scleral margin when the eye makes a slight outward movement during the examination. This happened once to our author, and probably also led to Becker's error. This explanation is also confirmed by the observation that the distance between the margin of the lens and that of the sclerotic is also diminished at the same time.—*Med. Record*, Jan. 20, 1877.

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41. *Treatment of Amblyopia by Inhalation of Nitrite of Amyl.*—Mr. H. R. Swanzy, Ophthalmic Surgeon to Steevens' Hospital, reports (*Dublin Journal of Med. Science*, Jan. 1877) four cases of amblyopia which were treated by a new method, namely, by inhalations of nitrite of amyl.

The first case was that of a coastguard whose sight had been impaired after a fortnight's exposure to the glare of the sun whilst whitewashing the coastguard premises. Upon examination it was found that with the right eye he could count fingers when held up at a distance of four feet only. The ophthalmoscope showed the vitreous humour of this eye to be filled with a diffuse opacity, rendering any view of the fundus oculi impossible. The vision of the left eye amounted to something between $\frac{1}{3}$ and $\frac{1}{4}$ (L. Sn. at 14′) of the normal standard. It could make out type No. 4½ of Snellen at 8 inches with difficulty. He complained a good deal of a broken irregular appearance of the letters, and of temporal headache. The ophthalmoscopic appearances of the left eye were perfectly normal.

Treatment was commenced by an application of Heurteloup's artificial leech to the temples, from which no benefit resulted. On the 17th of July Mr. Swanzy "caused the patient to inhale 10 drops of the nitrite of amyl from a small bit of cotton-wool. Soon after he had quite recovered from its effects, I made him inhale ten drops more. Five minutes after the effect of the second inhalation had worn off, I tested his vision, and found that a remarkable improvement had taken place for so short a space of time. He could now spell XL of Snellen at 14 feet—that is to say, his vision had improved from $\frac{1}{3.5}$ to $\frac{1}{2.8}$ of the normal standard. He was also able to read No. 4½ with greater ease, remarking that the words seemed less confused than previously.

"Upon testing the patient's vision next day, I found that it had not relapsed, but that the improvement which had been effected continued. He then got 10 drops to inhale. The peculiar symptoms produced by the inhalation continued about two minutes, and vision was not improved while they lasted. As they were just wearing off vision was slightly dimmed, but this disappeared in three or four minutes; 10 drops more were then given, and vigorously inhaled. About half a minute after the effect began, the letters seemed double their real size, but still in mist and broken. Two hours later the vision for distance was found the same as after the inhalations on the first day, but near vision was improved so that he could read No. 3½ of Snellen at 8 inches slowly.

"On the 20th he was beginning to see XXX of Snellen at 14 feet. I gave him three inhalations; and about three-quarters of an hour afterwards he could spell XXX at 14 feet almost perfectly. No. 3 was read slowly at 8 inches.

"On the 21st vision was no better, nor did two inhalations on that day effect any further improvement.

"On the 22d vision still remained the same, but, after two inhalations, the sight became so improved that XXX could all be distinguished at 14 feet. He still complained of the haziness, although he said it was lighter. He said also he could only see the letter he looked at and the one next it, while the others were quite in mist.

"On the 23d he got two inhalations.

"On the 24th vision was not any better, but after two inhalations he said he could make out XXX much more clearly. This vision now was very nearly half of the normal standard, and I did not succeed in producing any further improvement in it. I continued the inhalations of nitrite of amyl for a time, and tried some hypodermic injections of the nitrite of strychnia, but without avail. Before dismissing him from hospital (8th August) I again examined the field of vision with the perimeter, and found an improvement in the boundaries for red and blue, but very little in that for green.

"On the 20th of September he returned, complaining that about eight days previously the sight of the left eye had again become dim. He thought he had exposed himself too much to the bright glare of the sun. Bright light always gives him uneasiness and pain in the temples. I found his vision reduced as low as on the first day I saw him. After two days' treatment with the nitrite of amyl his sight was restored again as before. He was cautioned against exposure to strong lights in future."

In the second case the improvement effected by the nitrite of amyl treatment in the course of six weeks was such, that the patient could at the end of this time see four times as well as at the beginning. Before dismissing him from hospital I again examined his field of vision, and found that the power of perception of green had returned and occupied a normal extent of the field.

In the third case the vision of each eye went on improving by degrees until it had reached in the right eye almost to 2½ (XXX (?) at 14 feet), and in the left to more than ⅓ (XL at 14 feet) of the normal amount. No further improvement could be effected. Probably perfect vision would have been restored had it not been for the irregularities on the corneæ.

The only disagreeable consequences which resulted from the inhalations of amyl were in this case. While the immediate effect of the inhalation lasted, the Schneiderian mucous membrane secreted copiously, and there was an abundant flow of tears; and after a few days the inside of the nose became very sore.

The results in the fourth case were unsatisfactory owing to the treatment being interfered with by the intemperate use of spirits and tobacco, but still the beneficial effects of the inhalations of nitrite of amyl were evident.

Besides the foregoing, says Mr. Swanzy, I have tried this method of treatment in one case of advanced atrophy of the optic nerve, and in two cases of neuro-retinitis, but without any beneficial result.

The only published case of amaurosis or amblyopia treated by the nitrite of amyl, of which I am aware, occurred in the number of the *Berliner Klinische Wochenschrift* for 24th April last. It is by Dr. Steinheim, of Bielefeld, and it suggested the trial of the drug to me in the above cases.

Dr. Steinheim's patient was a married woman, who completely lost the sight of both eyes after a severe hemorrhage, connected probably with miscarriage. The ophthalmoscope displayed a grayish-white opacity of the optic papillæ, which were somewhat swollen and with indistinct margins. On the sixth or seventh day after the blindness came on, Dr. Steinheim admitted the patient into his hospital, and gave her 8 drops of the nitrite of amyl to inhale. As soon as the effects had passed off he gave her a second similar inhalation.

About fifteen minutes later sight began to return to the left eye, so that fingers could be counted at a distance of four or five feet. The right eye still remained blind. The patient was kept in a dark ward, and received good diet and wine. Nirite of amyl inhalations were given several times a day. On the 30th of May the patient could count fingers at fourteen feet with the left eye, although only with the upper part of the field of vision. The lower part of the field did not recover its functions, nor did any part of the retina of the right eye. The appearance of the optic disks had altered to that of atrophy. Dr. Steinheim says he has had very satisfactory results from the treatment in other cases, which he proposes to make known at a later period.

I shall not venture to draw any definite conclusions from the cases I have narrated as to the precise indications for the employment of nitrite of amyl in amblyopia. We must wait for wider experience to establish these. It is evident, however, that there are some cases in which the treatment has a remarkable effect, and my object has been to draw attention to this fact, so that others may be induced to try the method.

As to the *modus operandi* of the treatment, I have been unable to do more than form a conjecture. The physiological effect of an inhalation of nitrite of amyl is to paralyze the vaso-motor nerves of the head and neck. I am inclined to think it is the increased supply of blood to the impoverished nerve-centres, caused by the dilatation of the capillaries, that is the immediate cause of the improvement in vision.[1]

I may here remark, that in none of my cases did the ophthalmoscope show any alteration in the calibre of the retinal vessels while the primary effects of an inhalation lasted. This coincides with the observatians of Steinheim, and of Sämisch and Stammeshaus,[2] but is at variance with those of Aldridge.[3]

## MIDWIFERY AND GYNÆCOLOGY.

42. *Glycosuria during the Puerperal State.*—In a note communicated to the Biological Society of Paris (*Gaz. Méd. de Paris*), M. **Gubler** states that a transitory glycosuria may occur. His conclusions are these:—

1. Glycosuria is not a normal phenomenon of the state of lactation.
2. It shows itself on the suspension or premature suppression of lactation, provided the nurse be in good health and not affected by any serious constitutional disturbance.
3. In other terms, glycosuria only appears as a consequence of a rupture of the equilibrium between the production and consumption, giving rise at first to a lactosemia comparable to super-albuminosed blood from which is derived the albuminuric dyscrasia.

He has never seen transitory albuminuria accompany glycosuria in these pathological conditions.—*London Med. Record,* Feb. 15, 1877.

43. *The Combined Method of Uterine Examination.*—Prof. **Hegar**, of Freiburg (*Volkmann's Sammlung Klinische Vorträge,* No. 105), gives some excellent hints for simultaneously examining the uterus and its appendages by one hand placed on the abdominal wall, and by the forefinger and thumb of the other in the rectum and vagina respectively. The thumb is first to be passed into the vagina, and placed on the cervix uteri, if it can be reached; then the finger is passed into the rectum, and up over the sacro-uterine ligaments (which form a good regional guide), to the posterior surface of the uterus. The hand on the abdomen is now pressed back towards the sacrum, and so the uterus is held between the fingers of the two hands. In the same way the thumb can be placed on the front of the cervix and corpus uteri; and so, with the help of the hand outside, fix and draw down the organ so as, to a certain extent, to palpate

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[1] Bernheim (Pflüger's Archiv, viii. 253–259, 1873) and Eulenburg and Guttman (Reichart and Du Bois' Archiv, 1873, v. 620–625), find that nitrite of amyl paralyzes the vaso-motor centres, while Pick's experiments tend to prove it to be a muscle-poison (Deutsch. Archiv, f. Klin. Med., xvii. p. 129).

[2] Centralblatt f. d. Med. Wissensch., No. 55, 1873.

[3] The Ophthalmoscope in Mental and Cerebral Diseases. West Riding Lunatic Asylum Reports, vol. i., 1871.